

## OIB - DC-8 10/20/14 Science Report

**Aircraft:**

[DC-8](#) ([See full schedule](#))

**Date:**

Monday, October 20, 2014

**Mission:**

OIB

**Mission Location:**

Antarctica

**Mission Summary:**

### F03 Sea Ice ? Seelye Loop

#### Accomplishments

- Low-altitude survey (1,500 ft AGL) over sea ice in the Weddell Sea.
- ATM, albedo, KT-19, snow, Ku-band, gravimeter, and DMS were operated on the survey lines.
- Ramp pass at Punta Arenas Airport at 2,000 ft AGL after takeoff.
- Elevation (aka pitch) maneuvers over sea ice for snow and Ku-band radar time synchronization.
- Satellite tracks: None.
- Repeat Mission: 2009, 2011.

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	64 GB	None. About 75% surface returns.
CAMBOT	yes	210 GB	None.
DMS	yes	128 GB	None. Collected 20,838 frames.
Snow Radar	yes	108 GB	None.
Ku-band Radar	yes	108 GB	None.
MCoRDS	no	N/A	Not operated due to sea ice mission.
KT-19	yes	20 MB	None.
Albedo	yes	5.3 GB	None.
Albedo camera	no	670 MB	None.
Gravimeter	yes	1.8 GB	None.

#### Mission Report (Michael Studinger, Mission Scientist)

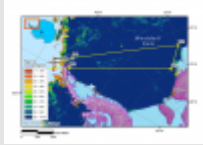
Today's mission represents a continuation of the IceBridge time series, repeating the 24 October 2009, 101026, 12 October 2011 and 25 October 2011 missions. It was not flown in 2012 due to persistent poor weather that year. It targets gradients in sea ice freeboard and thickness along the "gate" connecting the tip of the Antarctic Peninsula with Cape Norvegia.

The weather forecast on both the GFS and the AMPS model looked promising for more of the large area. We encountered some low clouds along the Peninsula and in small patches here and there. The ATM lasers recorded about 75% surface returns.

LiDAR data collection started at 10/20/2014 13:54 UTC and ended at 21:35 UTC. In total we collected 7.7 hours of science data.

**Images:**

**Figure 1: Today's trajectory in yellow.**



[Read more](#)

## Figure 2: Sea ice conditions near Cape Norvegia.



[Read more](#)

**Submitted by:**

Michael Studinger on 10/20/14

**Related Flight Report:**

## DC-8 10/20/14

**Flight Number:**

150108

**Payload Configuration:**

Operation IceBridge 2014

**Nav Data Collected:**

Yes

**Total Flight Time:**

11.7 hours

**Submitted by:**

Frank Cutler on 10/21/14

**Flight Segments:**

<b>From:</b>	SCCI	<b>To:</b>	SCCI
<b>Start:</b>	10/20/14 11:51 Z	<b>Finish:</b>	10/20/14 23:34 Z
<b>Flight Time:</b>	11.7 hours		
<b>Log Number:</b>	<a href="#">158003</a>	<b>PI:</b>	Michael Studinger
<b>Funding Source:</b>	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
<b>Purpose of Flight:</b>	Science		
<b>Comments:</b>	Purpose of Flight: OIB 2014 Science Flight ? Seelye Loop/Weddell Sea Aircraft Status: Airworthy Sensor Status: All instruments operated Significant Issues: None Accomplishments: Takeoff at 293 11 51 20 Land 293 23 34 43 Perform ramp calibration pass at SCCI at 1159Z/1930? agl before starting transit south at FL330. Descend to 1500? agl to start southeast bound track at 1355Z. Vary altitude along sea ice rout between 1500? agl and 1300? agl due to clouds. Turn south at end of southeast track at 1722Z, overfly a portion of the Brunt Ice Shelf, and turn northwest at 1811Z. Cross endpoint at 2133Z and climb to FL410 for transit to SCCI. Planned events: Continue science flights out of Punta Arenas, Chile		

**Flight Hour Summary:**

	<b>158003</b>
<b>Flight Hours Approved in SOFRS</b>	300
<b>Total Used</b>	292.1
<b>Total Remaining</b>	7.9

**158003 Flight Reports**

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
<a href="#">10/06/14</a>	150101	Science	1.2	1.2	298.8
<a href="#">10/07/14 - 10/08/14</a>	150102	Science	5.2	6.4	293.6
<a href="#">10/08/14</a>	150103	Science	3.7	10.1	289.9
<a href="#">10/13/14</a>	150104	Transit	10.4	20.5	279.5
<a href="#">10/13/14</a>	150105	Transit	3.2	23.7	276.3
<a href="#">10/16/14</a>	150106	Science	11	34.7	265.3
<a href="#">10/18/14 - 10/19/14</a>	150107	Science	11.9	46.6	253.4
<a href="#">10/20/14</a>	150108	Science	11.7	58.3	241.7
<a href="#">10/23/14</a>	150109	Science	11.8	70.1	229.9
<a href="#">10/25/14</a>	150110	Science	11.4	81.5	218.5
<a href="#">10/26/14 - 10/27/14</a>	150111	Science	11.9	93.4	206.6
<a href="#">10/28/14</a>	150112	Science	11.5	104.9	195.1
<a href="#">10/29/14</a>	150113	Science	10.9	115.8	184.2
<a href="#">10/31/14</a>	150114	Maintenance	2.8	118.6	181.4
<a href="#">11/01/14</a>	150115	Maintenance	3	121.6	178.4
<a href="#">11/02/14</a>	150116	Science	10.9	132.5	167.5
<a href="#">11/03/14</a>	150117	Science	11.1	143.6	156.4
<a href="#">11/05/14</a>	150118	Science	11.4	155	145
<a href="#">11/06/14</a>	150119	Science	11.1	166.1	133.9
<a href="#">11/07/14</a>	150120	Science	10.9	177	123
<a href="#">11/08/14</a>	150121	Science	11.4	188.4	111.6
<a href="#">11/10/14</a>	150122	Science	11.2	199.6	100.4
<a href="#">11/11/14</a>	150123	Science	11.2	210.8	89.2
<a href="#">11/13/14</a>	150124	Science	11.4	222.2	77.8
<a href="#">11/14/14</a>	150125	Science	11.5	233.7	66.3
<a href="#">11/15/14</a>	150126	Science	11.2	244.9	55.1
<a href="#">11/16/14</a>	150127	Science	11.1	256	44
<a href="#">11/21/14</a>	150128	Science	11.2	267.2	32.8
<a href="#">11/22/14</a>	150129	Science	10.8	278	22
<a href="#">11/24/14</a>	150130	Transit	2.9	280.9	19.1
<a href="#">11/25/14 - 11/26/14</a>	150131	Transit	11.2	292.1	7.9

*Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.*

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